

NEW SPECIES OF COLORADO SYRPHIDÆ.

CHARLES R. JONES.

Microdon similis n. sp.

Length 14 mm. Head black, clothed with yellowish pile, front wide, sides nearly parallel throughout, a narrow, shining oblique transverse groove running from the base of the antennæ to the eyes; antennæ dark fuscus, the first joint linear, equal or sub-equal in length to the second and third together, arista black, tip slightly reddish. Thorax of a bronze black, clothed with yellow pile. Scutellum rounded, black, with the apex slightly emarginate, but plain, pile of the same color as the thorax, slightly longer and more abundant. Abdomen black, short, slightly shining, less than twice as long as wide, finely punctulate; dorsum with stout black pile, the lateral margins with yellowish pilose, pile of the first segment long, whitish, and forms a distinct uninterrupted transverse cross-band on the posterior portion of the segment. Legs black, pile of the tibia whitish, hind metatarsi slightly dilated and not quite as long as the remaining joints together, clothed with short, stout, reddish pile. Wings sub-hyaline, the veins narrowly blackish.

Two specimens, Poudre Canon, Colorado., C. S. Mead, Coll.

M. similis differs from *M. tristis* in that the thorax of the latter is obsolete cupreous lineate and the former is not; that the antennæ of *tristis* is testaceous at the base while the antennæ of *similis* is entirely black; that the length of *tristis* is from 7 to 10 mm., while *similis* is 14 mm.; and in that the emarginated scutellum of *tristis* is armed with a sharp, tooth-like projection on each side and *similis* is only slightly emarginate and plain.

Melanostoma cherokeenensis n. sp.

Length, ♂, 7 mm., ♀, 7.5 mm. General color black, body linear, face bluish, yellow reflecting, white pollinose, pile black and white, tubercle rounded, not very prominent, shining black. Front of female slightly depressed, with whitish pollinose and black pile; vertex shining black, black pile, cheeks bluish black, white pollen and black pile near the eye, white pile along border. Occiput broad, whitish pollen and pile. Antennæ brownish black, third joint rounded. Thorax shining metallic green, with black and white pile. Pleura with white pollen and pile. Scutellum yellowish, lightly dusted with light pollen, which gives it a bluish reflection, dorsum with long black, sparse pile, bordered with whitish pile. Abdomen velvety, bluish-black with short, white pile and three interrupted yellow cross-bands, all separated from the lateral margin. In the female, the spots of the second segment are orange, quadrate, and near the middle of the segment; the lateral portion lightly dusted with white pollen; spots of the third and fourth segments

similar to the first, but nearer the anterior margin of the segment, and considerably larger; segments four and five with a narrow, yellow, posterior border. Legs black, with white pile, knees fuscous, hind metatarsi only slightly or not at all thickened, tarsi with short, stiff, yellow pile. Wings hyaline, stigma yellow. Male differs from female in having the face with more of a bluish tinge; the cheeks are black and the oral margin has a yellow spot on it. The scutellum is darker and the pile is about twice the length of that of the female; the first abdominal spots are triangular and very small, and the fifth segment has no yellow posterior margin.

Two males, one female. C. S. Mead, collector, Cherokee Park, 7600 ft., July 30, 1913.

***Melanostoma johnsoni* n. sp.**

♀, 8 mm. Thorax blue or greenish metallic, head shining, bluish or green. Face prominent with whitish pile and lightly dusted on the sides with whitish pollen, tubercle and middle shining, a narrow transverse pollinose stripe below the antennæ which projects upward in the middle between the antennæ, front shining, lightly dusted on side with whitish pollen, a shining spot immediately above and surrounding the antennæ, pile black. Vertex shining, black pile. Antennæ elongate, third joint as long as the two preceding joints, sub-quadrate viewed from above, brownish, light-reddish underneath, arista brown, basal; occiput whitish pollinose, with whitish pile. Thorax metallic dark blue, or green, shining, with whitish pile. Scutellum of the same color as the thorax with marginal pile longer than the rest. Abdomen ovate, shining, brownish, with short white pile, which is longer on margin and near the base, and three pairs of yellowish abdominal spots. Second segment with two small oblique medial yellowish spots, segment three with two similar spots, but larger and more ovate. Spots on segment four similar in shape and size to the front pair. Legs testaceous, hind femora, except at the base and the tip, part of the tibiæ and the tarsus, fuscous, hind metatarsi slightly thickened. Wings hyaline, stigma yellow.

Habitat: Two females. S. A. Johnson, collector, Denver, Colorado, April 4, 1902.

***Melanostoma monticola* n. sp.**

Length, ♀, 7 to 9 mm. Face projecting, slightly excavated below the antennæ, whitish pollinose, with white pile, shining black; epistoma projecting downward, tubercle prominent, a smaller one on oral margin; from tubercle up to the base of the antennæ a slight median depression; above the insertion of antennæ two slightly raised, black, arcuate ridges, meeting on the median line. Front shining metallic green, whitish pollinose on sides, black pilose, and slightly depressed; vertex shining metallic green, black pile; eyes converging at apex. Cheeks black, white pilose. Antennæ brownish, third joint reddish below, sub-ovate; arista bare. Thorax shining metallic green, white pile. Scutellum of the same color, pile short, a slight depression following

contour of scutellum making a narrow border on its entire posterior portion; pleuræ whitish pollinose, with white pile, abdomen shining black, narrowly ovate, pointed at tip; first segment sub-opaque, white pollinose, with white pile, second segment on the sides with a semi-quadrate yellow spot; third and fourth segments with larger yellow quadrate spots which touch the anterior margin of the segment, fifth segment with a pair of small triangular spots. The abdominal spots are lightly dusted with whitish pollen. Legs fuscous or brown, white pilose, hind metatarsi not thickened, hind femora black, or having base yellowish; coxæ black; wings hyaline; stigma yellowish.

Habitat: Six females, Cherokee Park, Estes Park and Carbondale, Colorado. C. S. Mead and J. C. Bradley, collectors. July 12, 1908; July, 1913.

***Eupeodes braggii* n. sp.**

Length, 8 to 10 mm. Eyes bare; face whitish yellow with a black median line which extends from oral margin but does not reach the antennæ. Cheeks black. Front in male wholly yellow with black pile; front in female black, fading to light yellow towards the antennæ; occiput silvery pollinose, with whitish pile; a brownish crescentic spot above the antennæ. Thorax bluish or dark metallic green with pale yellowish pile; scutellum in both sexes translucent, greenish reflection; posterior margin distinctly yellow. Abdomen sub-opaque, with light colored pile; first segment and posterior portion of all segments shining. The second segment bears two oblong yellowish, attenuated, spots which are contiguous with lateral margins of abdomen. Segment three and four, each with a pair of slightly arcuate yellowish spots, which are separated from the lateral margin of the abdomen, inner angles rounded, outer anterior angles acute. Posterior portion of segments four and five narrowly margined with yellow. Legs yellow, or brown; femora black at base; wings hyaline.

Habitat: Seven specimens, 2 ♂, 5 ♀, Grand Junction, Fort Collins, Colorado. L. C. Bragg and G. P. Weldon, collectors, September 8, 1908.

***Eupeodes weldoni* n. sp.**

Length, 10 mm. Eyes bare, face whitish, white pilose, with a black median line, extending from oral margin almost to the base of antennæ; cheeks black, upper front in female black, lower part yellow, with or without brown crescent-shaped spots above the roots of the antennæ. Vertex greenish, with light colored pile; occiput light with light pile. Antennæ varying from reddish brown to black. Thorax blackish metallic green, with pale yellowish pile; scutellum in female more or less translucent with yellowish pile and distinctly margined with yellow; abdomen black, sub-opaque; thinly pilose with whitish and black pile. The first segment and posterior portion of the second and third shining black; posteriorly, the fourth and fifth marginate with yellow; the fifth also yellow laterally, giving a complete yellow

border. Abdominal spots distinctly yellowish-white, those on the second segments transverse, and reaching the lateral margin. The spots on segments three and four arcuate, attenuated at their tips, and reach the lateral margin anteriorly, venter very pale yellow. Legs yellowish, with white pile, bases of femora black; wings hyaline.

Habitat: Three specimens (♀), Grand Junction, Fort Collins, Colorado. G. P. Weldon, Collector, August 14, 1909.

***Syrphus flukei* n. sp.**

Length 8 mm. Face bluish yellow, only slightly pollinose, a bluish median stripe from roots of antennæ to oral margin. Oral margin brownish, shining; cheeks black, opaque, front dusky yellowish with yellow pile; frontal triangle slightly prominent, whitish pollinose, with black pile. Antennæ brownish red, a dash of wine red at roots of each, and light yellow lines running obliquely from them; third joint ovate, yellowish at base; arista brown, bare; eyes bare, contiguous; thorax shining metallic greenish yellow, with yellowish pile, dorsum with ramifying fern-like ferruginous markings, darker on margins, scutellum yellowish, clearer on margin, semi-translucent, covered with rather abundant long white pile.

Abdomen black, chiefly opaque, with three pairs of yellowish arcuate cross-bands, all reaching the margin; first segment wholly shining. Posterior margins of segments three, four and five, shining; first pair of abdominal spots semi-ovate with attenuated tips which reach the lateral margin only at extreme apex of the first third of segment, second and third pairs distinctly arcuate, with attenuated tips reaching lateral margin at junction of segments, inner angles extending forward and rounded, fourth segment with a narrow yellowish hind margin. Segment five entirely yellow. Legs brownish yellow; femora with rather long yellowish pile, base black, tarsus and metatarsus brownish. Wings hyaline, sub-costal cell brownish, stigma distinctly yellowish.

Habitat: One specimen, Fort Collins, Colorado, May 7, 1915. On plum blossom. Chas. Fluke, Collector.

***Syrphus marginatus* n. sp.**

Length, male, 12 mm. Face yellow with a slight bluish tinge, shining, a brown median stripe from oral margin not reaching the antennæ; cheeks bluish black, shining, the oral margin anteriorly, connecting under the oral opening with the color on the opposite side; frontal triangle yellow, with black pile, greyish pollinose; a slender black or brownish arch above the base of the antennæ; vertical triangle small, metallic blue, with black pile; antennæ brown, along the underside more or less reddish, first two joints lighter than the third; third joint oval; eyes bare; thorax metallic green with moderately thick light pile; scutellum translucent yellowish, shining, with bluish opalescent reflection, chiefly light pile. Abdomen black, principally shining, with three pairs of yellow spots. The first pair transverse,

elongate oval with attenuated tips anteriorly which reach the lateral margins of the abdomen, inner angles rounded; the second and third pairs arcuate, a little oblique, convex behind, concave in front; outer margins acute and directed forward, the inner angles rounded. The fourth and fifth segments with a narrow yellow hind margin, the fifth with two yellow basal marginal spots; legs yellowish with base of femora black; hind femora with more black than the rest; hind tibiae and all tarsi brownish, lighter below. Wings hyaline, stigma brownish.

Habitat: Two males, Fort Collins, Colorado. L. C. Bragg, Collector. May 10, 1911.

NOTE:—*S. marginatus* differs from *S. arcuatus* in that the abdomen of the former is velvety black and sub-opaque, while the latter is principally or wholly shining, and that the abdominal spots are dull yellow and the first pair reach the lateral margin of *marginatus*, while the spots of the latter are bright yellow and are all separated from the margin.

***Syrphus meadii* n. sp.**

Length, male and female, 10 to 12 mm. Face pale yellowish, with a shining black median stripe extending from oral margin but not reaching the antennæ; cheeks shining black, (from eye to oral margin); antennæ reddish brown, lighter on under side; frontal triangle yellow, pollinose, black pile; in the female with a medial black line resembling an inverted Y, slightly convex. Immediately above the antennæ are two large black spots; frontal triangle in the male yellow, silvery pollinose, and with black pile; vertical triangle black, black pile, eyes bare; occiput in the female rather broad, silvery pollinose, and with whitish pile; very narrow in the male.

Abdomen black, principally shining black and yellow pilose, three pairs of yellow cross-bands; the first abdominal cross-band distinctly interrupted and separated from the lateral margin, semi-oval, the inner angles rounded, the latero-anterior angles slightly acute. Second and third abdominal cross-bands coarctate in the middle; a brownish medial mark in the middle of these bands giving them the appearance of being subinterrupted. These bands are concavo-sinuate anteriorly and convexo-sinuate posteriorly. They do not reach the lateral margin and are cut off obliquely forming a sharp angle anteriorly and are rounded posteriorly. The fourth and fifth segments have a narrow yellowish posterior border; fifth segment with two small yellowish triangular spots at its base. The four anterior femora brownish with a black base, the black extending about one-third the length of femora; hind femora black with exception of apices which are brownish; tibiae brownish, tarsi brown on underside, darker on top. Wings hyaline, subcostal cell brownish, darker at stigma.

Habitat: Eight specimens, seven females and one male. C. S. Mead, Fort Collins, Colorado, June 12, 1913.

Syrphus medius n. sp.

Length, 10 mm. Face yellowish, yellowish pilose, with a distinct blackish brown stripe in the middle, which begins at the oral margin, but does not reach the antennæ. Eyes bare. Antennæ brown, third joint lighter on the under side. Cheeks brownish black, separated from oral margin by a yellowish border completely cutting off the connection between the black on both sides (as in *S. americanus*). Front brownish yellow, with a slight greenish reflection, a darker median furcate line running from the vertex to the base of the antennæ, forming an inverted Y; lighter on sides, with black pile, a shining black spot above each antenna; vertex shining black, black pilose. Thorax bronze, shining, with fine yellowish pile; scutellum lighter, with the same colored pile; abdomen black, with three uninterrupted yellow cross-bands. The first abdominal cross-band entire; anterior margin distinctly concave; posterior margin gently sinuate, having a medial diameter of about one-half of that of the distal ends. The anterior margin extends directly to lateral margin of the body, while the posterior is cut obliquely a short distance from the tip and reaches the lateral margin in half its width. The bands of the second and third segments are equal in width throughout; both have a median anterior and posterior projection; attenuated at the ends and reach the lateral margins in the same manner as the first cross-band; fourth segment with a narrow yellow hind margin; fifth segment yellow, with a narrow transverse blackish spot in its middle; legs yellow, coxæ black, hind femora with a distinct brownish ring on the distal half, all tibiae and tarsi yellow. Wings hyaline, stigma yellowish.

Habitat: Fort Collins, Colorado, one specimen. L. C. Bragg, Collector, August 22, 1911.

S. medius differs from *S. abbreviatus* in having the distinct brown stripe in the face; the brownish spots above the antennæ, the cross-band on the second segment entire, the cross-band of the third and fourth segments not all convex, sinuate, and the black color of the cheeks separated on the under side of the face by the yellow margin round the mouth.

S. medius differs from *S. americanus* chiefly in that the three principal yellow cross-bands attain the lateral margins of the abdomen.

Syrphus similis n. sp.

Length, 12.5 mm. Eyes globose bare, face yellowish, with bluish tinge, whitish pollinose and with sparse yellow pile; frontal triangle whitish pollinose, with two shining black spots above antennæ; the pile, and that of the vertex, black; vertex shining, metallic greenish; a brownish median stripe from vertex to black spot above antennæ; occiput broad, sides parallel, silvery pollinose, with rather abundant stubby, whitish pile; antennæ brownish, third joint oval, blackish at tip, with brown base; cheeks broad, yellowish. Thorax a dull, slightly shining black, with abundant light colored pile, and a bluish dorso-median

stripe; scutellum light yellow with chiefly black pile; pleura with a tuft of long yellow pile; halteres lemon yellow; abdomen black, opaque, principally black pile, first segment entirely shining, lateral margins of second, third and posterior portion of third and fourth shining. The three pairs of yellow stripes reach the lateral margins. The first pair, semi-ovate, attenuated laterally and rounded on inner angles; second and third pairs semi-rectangular, inner margins rounded, sides parallel, about two-thirds their length, thence slightly curved anteriorly and slightly attenuated, meeting the margins at the junction of preceding segment. Posterior margin of fourth and fifth segments bordered with a yellow transverse line; legs slender, yellowish, with chiefly black pile; bases of all femora black, all tibiæ yellow, inner margins of metatarsi of the front legs yellow, middle and hind metatarsi and tarsi brownish black; wings hyaline, yellowish at base, sub-costal cell brownish, darker at stigma.

Habitat: One specimen, female, Estes Park, 7600 ft., July 15, 1912, G. P. Weldon, Collector.

S. similis differs from *S. torvus* in that the eyes are globose and completely bare; and from *ribesii*, in that the femora are black at the base, while in the ♀ of *ribesii* they are yellow; and in that the abdominal bands are almost straight and attenuated, and that these spots show no convexity until they reach the point where the attenuation begins; from the rounded inner margins of the transverse bands up to the point of attenuation the abdominal spots are almost quadrate.

***Sphaerophoria interrupta* n. sp.**

Length, ♀, 8 mm. Front black, shining, with a black median dash from the vertex, gradually becoming constricted in the middle to a little more than one-half its width, thence gradually broadening to its extreme width, and then tapering to a point above the antennæ; sides silvery pollinose, yellowish above the antennæ, with black and yellow pile; face pale yellow, with white pile and silvery pollen, except on the tubercle; oral margin narrowly brownish; cheeks yellow, with a dark brown spot; antennæ brownish, third joint rounded; arista slightly darker; occiput silvery pollinose, and with white pile; dorsum of thorax metallic greenish black, shining, with a distinct slightly interrupted spot at the base of the scutellum, the same shape and color of the scutellum, but slightly smaller; the anti-sutural stripe broad, yellowish, covered with whitish pollen, which gives it a bluish reflection; the post-sutural, slightly narrowed, entirely yellow, and terminating in an acute angle near the scutellum; pleuræ black, with silvery pollen and white pile; scutellum yellow, translucent, with sparse whitish pile; abdomen black, shining, with four yellow, interrupted cross-bands which reach the lateral margins; the first segment black; with inconspicuous yellowish side spots; second segment with two, semi-triangular, arcuate spots, which reach the lateral margins near the anterior portion of the segment,

inner angles acute; segments three, four and five each with a quadrate, interrupted transverse cross-band on the anterior portion, which reach the lateral margins in their full width, their inner angles slightly rounded; segments four and five narrowly margined, posteriorly, with yellow; legs brownish-yellow; four anterior femora with a brownish band near the middle; tibiae and tarsi yellowish; hind tibiae, tarsi, and femora, except at the bases and extreme apices, brownish; wings hyaline, stigma yellowish.

Habitat: One ♀, Happy Hollow, Colorado. C. S. Mead, Collector. August 13, 1913.

***Brachyopa rufiabdominalis* n. sp.**

Length, 7 mm. Face light reddish brown, prominently produced forward, with light, silvery, glistening pollen and very fine white pubescence; slightly concave beneath the antennae; frontal triangle shining, prominent, with or without a median suture. Cheeks a little darker red than the face and with a shining stripe from the eye to the oral margin; sparsely covered with long white pile. Antennae situated on a semi-conical projection, of the same general color as the face but slightly darker; first joint about half as long as the second, of a slightly deeper red than the third, dorsally with a tuft of black hairs on each, third joint light red, about as long as first and second together, ovate; arista bare, dorso-basal. Vertex black, frontal portion with or without silvery pollen, eyes narrowly separated. Dorsum of thorax brown with black pile, covered with grayish pollen, anteriorly with two approximate dorso-medial blackish stripes, laterally, with a broad interrupted stripe; the transverse suture deep, shining; humeri with a reddish spot; pleurae reddish brown; a reddish brown stripe extending from the scutellum to the base of the wing. Scutellum light reddish brown, beset with blackish and reddish pile, shining, with a very narrow median light stripe; abdomen slightly longer than the thorax, but little longer than wide, light reddish brown and entirely shining, with reddish pile; the posterior portion of segments one, two and three with a narrow, posterior, shining, brownish, transverse band, either entire or interrupted in the middle.

Legs of the same color as the abdomen, principally with light colored pile; on the under side of the hind femora and the apex of the four middle femora with stout black pile; tarsi darker brown; light at apex; the hind metatarsi slightly thickened at base and thence gradually tapering to apex; wings hyaline with a reddish tinge, anterior cross-vein before the middle of the discal cell and almost rectangular.

Habitat: Two male specimens. C. R. Jones, Collector. Rist Canon, Colorado, on wild plum. May 12, 1915.

B. rufiabdominalis differs from *B. cynops* in that the scutellum and abdomen are entirely shining, in that, in the former, the circular abdominal and the triangular spots of segments two and three are wanting, and it has the narrow posterior cross-band, and the lengths are different; in that the hind femora and

the apex of the anterior femora have stout black pile, and in that the posterior cross-vein is about two-thirds of the penultimate sections of the fourth vein, instead of being equal.

B. rufiabdominalis differs from *B. vacua* in the color of the thorax and its markings. *B. vacua* has three brown stripes and *B. rufiabdominalis* has four, two entire and two interrupted. *B. vacua* is 8-9 mm. and *B. rufiabdominalis* is 7 mm.

B. rufiabdominalis differs from *B. bicolor* Fallen, of Europe, in that the occiput of the latter is pale gray and with gray pile, the face is without pubescence, the eyes touch for about one-third of the distance from the ocelli to the antennæ; the scutellum has eight long black marginal hairs and is covered with short black pile, while in the former the occiput is black, whitish-pollinose and has black and white pile; the face has fine whitish pubescence on it; the eyes are distinctly separated, the nearest point of contingency is immediately below the ocelli; the scutellum has black pile dorsally, and the remainder is covered with reddish pile and lacks the eight black marginal bristles.

***Volucella rufomaculata* n. sp.**

Length, ♀ 14 mm., ♂ 15 mm. Face yellowish chestnut, thickly clothed with a medium long, yellow pile; separated in both sexes by a narrow yellowish strip. Considerably excavated and bare below the antennæ. Cheeks shining black, black pilose, in the female with a small yellow triangular spot near the eye; in the male this spot connects with the narrow yellow stripe next to the eye. Antennæ reddish brown, lighter at tip, third joint elongate, widest at the base. Arista more than twice as long as the antenna, reddish, with long abundant feathery, black plume; front of the female distinctly yellow, rather narrow, converging at the apex with abundant long, yellow pile. Front of the male brown, shining, sparsely covered with whitish pile, frontal triangle of the male very small, yellow, with abundant long, yellow pile. Eyes of the female sparsely pilose throughout, in the male thickly pilose. Dorsum of thorax, bright shining blue with moderately long black pile. Anterior, lateral margins, posterior margin and pleura with abundant long, yellow pile. Scutellum light-yellow with abundant long, yellow pile. Abdomen shining black with yellow pile, more abundant on lateral margins of second and fourth segments. First segment black, shining, second segment with a pair of large, yellow lateral triangular spots connected on posterior margin with a reddish band, pile of the sides abundant, in the middle sparsely pilose. Third segment with a large red, dorso-medial spot, extending from the anterior margin about two-thirds of the length of the segment, narrowly interrupted in the female and slightly more interrupted in the male, with short erect reddish pile; laterally from this spot, in the female, with yellow pile,

in the male, black pilose, segment four with entirely yellow pile, in both a small black shining spot in the middle shows the ground color. Legs black, with stout black pile, tips of femora, bases of tibiae and tarsi reddish brown. Wings with a brownish tinge, decidedly colored along the veins.

Habitat: One male; 1 female, C. R. Jones and C. S. Fluke, Collectors, Estes Park and Poudre Canon, August, 1915.

V. rufomaculata differs from *V. evecta* in the color of the thorax, the latter being black and the former being blue; the eyes of the female in *V. rufomaculata* are pilose throughout, and in *V. evecta* they are bare or at most pilose near the top; the abdomen, outside the second segment, in *V. evecta*, is entirely shining black, while in *V. rufomaculata* it has a large, red dorso-medial interrupted spot.

***Mallota flavoterminalis* n. sp.**

Length, ♂ 13 mm., ♀ 15.5 mm. Eyes bare, narrowly separated in the male; frontal triangle of the male thickly covered with grayish pollen, whitish pile along the sides and top. Front of the female narrowed above, greenish black, shining, with yellowish pile and a narrow stripe of grayish pollen on each side below the ocelli. Face, deeply concave below the antennae to the tip of prominent tubercle; from tubercle to oral margin almost perpendicular; on the sides densely covered with grayish pollen. The broad, black median stripe is one-third the width of the face, wholly shining. Pile in the male, silvery, sparse, and rather long; in the female, short, whitish, mixed with golden yellow; the pollinose stripe in both sexes runs to the oral margin. Cheeks black, shining; antennae brownish-black, the third joint covered with grayish pollen, a little wider than long; arista reddish, dorsal. Dorsum of thorax, in ground color, black with slight gray pollen on humeri, moderately shining, covered with long, thick golden pile. The female more densely covered than the male with a patch of whitish pile at the base of the wings. Scutellum, light yellowish, with the same colored pile as the thorax, but more dense and longer. Pleura with grayish pollen and long, light yellow pile. Abdomen, obtusely conical, shining, first segment with yellow and black pile, second and third with short, stout, black pile; the posterior margin of segments with a transverse band of yellowish pile; fourth segment shining, in the male, reddish brown with wholly yellow pile, more dense laterally; fifth segment reddish brown, sparsely pilose, fourth and fifth segments of the female black, shining, with yellow pile. Legs of both sexes black with black and white pile, the tarsi dark reddish, last joints and base of tarsal claws fuscus; hind femora in both sexes much thickened; hind tibiae compressed arcuate. Wings hyaline with a distinct brown picture.

Two specimens, one male, C. S. Mead, Poudre Canon, Fort Collins, Colorado, 1913; one female, A. Maxson, on beet blossoms, Longmont, Colorado.

M. flavoterminalata differs from *M. Sackeni* in that the marginal cell of the former is open and in the latter it is closed. The pile of the fourth and fifth segments in the former is the same color as the thorax, and not blackish as in *M. Sackeni*. *M. flavoterminalata* differs from *M. cimbiciformis* in that the males are dichoptic, the pile and color of the abdomen and the brown spot in the wing.

***Mallota palmeræ* n. sp.**

Length, ♂, 11-12 mm. Eyes bare, converging a short distance below the ocelli. Frontal triangle and vertex separated by a distinct transverse suture, frontal triangle with whitish pile, thickly covered with white pollen, a shining brown stripe above the antennæ. Face deeply concave from the base of the antennæ to the tip of the tubercle, slightly receding, thickly covered on the sides and below the antennæ with whitish pollen, leaving a black bare, median, shining stripe, about one-fifth the width of the face, pile whitish, and rather long on the sides; vertical triangle slightly darker than the frontal, and with moderately thick long white pile. Cheeks shining black. Antennæ brownish black, situated on a brownish truncated process; third joint lighter, rounded and covered with whitish pollen; arista reddish. Dorsum of thorax in ground color, black, moderately covered with whitish pollen which gives the appearance of two light colored abbreviated longitudinal lines. Pile abundant, short, and light yellow. Scutellum yellowish, shining, with fine yellowish and whitish pile. Abdomen long, narrow, obtusely conical, of a dark-brownish color, shining, and with light colored pile; first segment densely covered with white pollen and moderately long, whitish pile; second segment with a pair of brownish, rather indistinct, median transverse triangular spots which reach the lateral margins and are separated medially; the posterior portion narrowly margined with brown. The following segments similar to segment two, but the brownish portion less conspicuous. Legs blackish, with whitish pile, all tarsi apex of hind femora and hind tibiæ brownish, a tuft of stout brownish hair underneath the apex of hind tibiæ, hind femora considerably thickened in the male, arcuate, hind tibiæ arcuate. Wings hyaline, with a distinct brown spot from the base of the discal cell to beyond the anterior cross-vein.

Habitat: Two males, one, C. S. Mead, collected on buckwheat, Fort Collins, Colorado. C. R. Jones, Platteville, Colorado, taken on *Dichrophyllum marginatum*, June and August, 1915.

***Xylota nigromaculata* n. sp.**

Length, ♀, 10 mm.; ♂, 8 mm. Head black, front considerable excavated below the antennæ, oral margin projecting; face blackish, light pollinose, pile whitish; cheeks black, shining, and white pile; front of female narrowed above, black, with two dashes of light pollen somewhat

remote from the eyes; front of the male black, with light pollen; antennæ short, fuscus, rounded; third joint scarcely longer than broad; arista bare, somewhat basal, reddish brown, lighter at tips; thorax metallic green, with short whitish pile, three dorso-medial cinerous stripes extending the entire length of thorax, the medial one about one-half the width of the others, meta-thoracic portion with additional cinereous stripes; scutellum the same color as thorax, with white pile, thicker and heavier on margin; abdomen bluish black, shining with whitish pile; second segment with triangular, metallic, greenish, shining side spots; legs nearly black, hind femora much thickened, hind tibiæ arcuate, reddish at apex, base of all tibiæ somewhat lutescent; front tarsi cinereous, inner margin of middle tibiæ with long whitish pile; wings blackish brown, stigma brown, anterior cross-vein oblique, wholly or partially surrounded by a black spot.

X. nigromaculata differs from *X. metallifera* to which it is closely related, in that the abdomen of the former is steel blue, shining, and has triangular metallic, greenish, shining side spots on the second segment; while the latter is opaque black; and in that the abdomen of the former does not have the elongated oval spots that occur in the latter. The former has distinctly thickened hind femora and the hind tibiæ are arcuate. These characters do not appear in the description of *X. metallifera*. I do not know of any specimens of the latter besides the types and these were unobtainable, so the description was all that was consulted.

Three specimens, two females and one male, Fort Collins, Colorado. The male was taken by S. A. Johnson at apple blossoms and the two females were reared from pupæ taken from an old decaying stump by E. C. Hotchkiss, April 21, 1903.

The following syrphid could not be exactly placed. In the key, it came nearest to *Xylota*, but the generic description did not fit, so, for lack of a better name, I have called it *Microxylota* and the species, *robii*.

Two specimens, Fort Collins, Colorado. C. S. Mead, Collector.

***Microxylota* n. g.**

Small species, 6.5 to 7 mm., slender, metallic; head hemispherical, slightly broader than thorax; antennæ situated on slight conical projection, first two joints short, third more or less oval; arista dorsal, bare; face concave in profile, epistoma slightly projecting; eyes pubescent, contiguous in males; thorax rather large, metallic green; scutellum metallic green, thinned along border; abdomen slightly narrower than the thorax; metallic greenish black, shiny, flattened, sides nearly

parallel. Third segment slightly contracted (viewed dorsally); legs short, rather stout, hind femora short, decidedly thickened, moderately pilose with long golden hairs; hind tibiæ thickened, slightly arcuate, with a few stout spines at apex; metatarsi thickened. Marginal cell of wing open, third longitudinal vein gently curved, anterior cross-vein oblique, beyond middle of the discal cell. The fourth section of the fourth longitudinal vein zigzag with two stump veins projecting outward.

Type of genus *Microxylota Robii*.

***Microxylota robii* n. sp.**

Length, 6.5 to 7 mm., face black with moderately thick, pale, yellowish pile, front narrow above, black, with silvery pollinose and sericeous pile; cheeks shining black; vertex shining black, black pile; eyes contiguous for a short distance, sparsely pilose; occiput shining black, extending broadly backwards; antennæ fuscus, pollinose, third joint rhomboid, somewhat pointed at tip; arista dorsal, bare, brownish. Dorsum of thorax shining, metallic greenish black, with two pollinose tapering stripes running from anterior portion to about middle of thorax, yellowish pilose; scutellum same color as thorax, thinned at the edge. Pile sparse, short, yellowish; abdomen approximately one-third longer than thorax; shining metallic greenish black, only four visible segments from above, sides nearly parallel, slightly tapering from anterior portion of second segment to the tip of abdomen; segments two, three and four with latro-medial, opaque, crescentic, whitish, pollinose depressions. Second segment broad, third slightly contracted; fourth rounding at tip, pile short, yellowish; legs strong, black, hind femora extremely thickened, shining black, with short, yellowish pile, tibiæ gradually dilated from base to apex, arcuate, base reddish brown, tarsi reddish brown; hind metatarsi incrassated at base, gradually tapering to apex. Wings sub-hyaline, stigma brown. The apical bounding vein of the first posterior cell zigzag with two stumps of a vein projecting forward.

Two specimens, males, collected by C. S. Mead, Fort Collins, Colorado, June and August, 1915.